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10/053,365

10/26/2001

Steven B. Dawes

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CORNING INCORPORATED
SP-TI-3-1
CORNING, NY 14831

EXAMINER

HOFFMANN, JOHN M

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

03/09/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/053,365 | Applicant(s) DAWES ET AL. | |
| | Examiner John Hoffmann | Art Unit 1791 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2009 and 16 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 7-14, 17-21, 23, 29, 30, 32-41, 44, 45, 51-53, 56 and 132-140 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) -3, 7-14, 17-21, 23, 29, 30, 32-41, 44, 45, 51-53, 56 and 132-140 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>12/16/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed 12/16/2008 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

The statement that the Japanese reference was cited in a counterpart foreign application is not considered a concise explanation of the relevance.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 7-14, 17-21, 23, 29-30, 32-41, 44, 45, 51-53, 56, and 132-140 rejected under 35 U.S.C. 103(a) as being unpatentable over Kyoto 5158587 alone, or in view of Walker 4178347, Dobbins 5043002, Biswas 4575463 Simms 4339256 and Korenowski 4118295.

Example 2 of Kyoto discloses the providing step and all of the contacting step, except for the flow rate limitation and the decreasing partial pressure. Kyoto's example 2 also does not disclose the evacuating and refilling. However, based on col. 2, line 63, and example 1, Kyoto also teaches doping without any gas flowing out.

Alternatively: it would have been obvious to have no gas flowing out, because if any gas flows out, the pressure is not being maintained.

Moreover, in light of col. 3, lines 14-24 of Walker, the gas is corrosive and noxious – which provides motivation to use the not-preferred method – i.e. to create less corrosive and noxious gas. See also Dobbins col. 1, line 37 to col. 2, line 44 which

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discloses that use of halides can be very expensive in terms of pollution abatement and equipment losses.

It is noted that it is inherent that the partial pressure would decrease - clearly, since the fluorine is doped into the glass, the amount of fluorine in the gas would be reduced, which would cause the partial pressure to decrease. See also instant claim 10 which indicates reactants are consumed.

As to the evacuating and refilling, it would have been obvious to purge the gas, and refill it so to provide more fluorine. It is generally not invention to replenish a spent source. See for example Biswas (col. 4, lines 11-15).

It is noted that a continuous process is obvious in view of a batch process:

From MPEP 2144.04

E. Making Continuous

In re Dilnot, 319 F.2d 188, 138 USPQ 248 (CCPA 1963) (Claim directed to a method of producing a cementitious structure wherein a stable air foam is introduced into a slurry of cementitious material differed from the prior art only in requiring the addition of the foam to be continuous. The court held the claimed continuous operation would have been obvious in light of the batch process of the prior art.).

Thus it would also be obvious to use a batch process, semi-batch, or semi-continuous process in light of a continuous process. In other words, In light of Kyoto's teaching to fill the vessel once, or continuously supply and evacuate the reactant, it is not invention to supply the necessary fluorine compound in two batches.

From MPEP 2144.04

C. Changes in Sequence of Adding Ingredients

Ex parte Rubin , 128 USPQ 440 (Bd. App. 1959) (Prior art reference disclosing a

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process of making a laminated sheet wherein a base sheet is first coated with a metallic film and thereafter impregnated with a thermosetting material was held to render prima facie obvious claims directed to a process of making a laminated sheet by reversing the order of the prior art process steps.). See also *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results); *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is prima facie obvious.).

As indicated by the Supreme Court in *KSR vs. Teleflex*:

When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. In that instance the fact that a combination was obvious to try might show that it was obvious under §103.

Dividing the amount of necessary fluorine into two separate steps would have been prima facie Obvious. It does not appear to be any more innovative than providing dual rinse cycles, or dual wash cycles in a dishwasher or clothes washer.

Simms is cited as evidence that batch semicontinuous and continuous processes are known in the glass making art (col. 5, lines 8-13). Korenowski is cited to show that it is known that semi-continuous processes are sometimes the most economical (col. 3, lines 23-27). Thus in addition to the above: it would have been obvious to try to add the dopant gas in a semi continuous manner – or otherwise provide the dopant in two phases, rather than in one step, or in a continuous manner, to find the most effective way of minimizing the noxious/corrosive gas.

Claim 2: it would have been obvious to purge/fill the vessel as many times as necessary to get the required amount of dopant into the glass.

Claim 3 would have been obvious so as to remove the spent gas - to make room for fresh dopant gas.

Claims 7 and 9: it would have been obvious to purge the first gas to purge the first spent gas.

Claims 8 and 10: Diatomic fluorine is added/created. See equation 2 of col. 3 of Kyoto. As to claim 10's "to compensate...." This is an intention that fails to define any manipulative steps. A claim does not define over the prior art just because someone has an intention/purpose "to compensate". In particular - since the claim does not require any actual reaction of the dopant gas. Furthermore, based on claim 23 reciting that the heating occurs during the reacting time, the "for a first reacting time" maintaining limitation of claim 1 needs to be interpreted as "for the purpose" – not to signify that they begin at the same time (see the 112 rejection regarding claim 23).

Claims 11 and 12: Examiner take Official Notice that these are conventional means to contain heated and pressurized reactions, so as to prevent bursting of the reaction vessel and release of gases. It would have been obvious to use double or – tripled walled vessels so as to prevent accidental death if the vessel should rupture. Applicant has not disputed that such is conventional – thus such is now deemed to be admitted prior art.

Claim 13: Kyoto teaches this.

Claim 14: as per the secondary references the halide gas reacts with water to form HF – which is detrimental to the environment and equipment. IT would have been obvious to remove all water (i.e. dry) from everything the gas contacts, prior to contact.

Claim 17 is inherently met because the pressures change.

Claim 18: as per equation 2 of Kyoto - every mole of the reactant would result in two moles of gaseous species.

Claims 19-21 and 23: it would have been obvious to perform routine experimentation to determine the optimal diffusing times and temperatures, depending upon the size and porosity of the preform.

Claim 29: examiner takes Official Notice that it is conventional to dilute dangerous gases with inert gases so as to reduce their noxious characteristics, should they accidentally escape. It would have been obvious to use inert gas with the Kyoto halide, so as to reduce the danger to the artisan, should a leak develop. Since the Official Notice has not been challenged, such is now deemed to be admitted prior art.

The rest of the claims not specifically mentioned above would have been an obvious matter of routine experimentation to determine the optimal pressure, temperature or other well known result effective variables. As to those claims requiring the use of a makeup gas. Note col. 3, lines 43-45 of Kyoto which teaches adding reactant to maintain optimum reaction rate. It would have been obvious to have a sensor to detect the concentration of the reactant or a by product so as to determine when more reactant should be added so as to maintain the optimal rate.

Response to Arguments

Applicant's arguments filed 2/6/2008 have been fully considered but they are not persuasive.

It is argued that the rejection is based on the partial pressure decrease being inherent from the teachings of Kyoto. This is not fully correct. The inherency of the partial pressure decrease is also based on secondary references. That is, when one makes the obvious modifications it is necessary that the partial pressure decreases. Common sense shows this to be true. One can also utilize the various gas laws and the law of conservation of mass. That is, if one were to move one gaseous species from an otherwise closed system, the partial pressure of that species would decrease because there would be fewer atoms/molecules of that species. Thus since the dopant is removed from the Kyoto chamber of the modified process (which uses a closed system), the partial pressure would decrease.

However the rejection also does make a reasonable case that Kyoto (alone) establishes inherency. As stated in the rejection: "...based on col. 2, line 63, and example 1, Kyoto also teaches doping without any gas flowing out." Examiner's apologizes for not being clearer here - but this does reasonably establishes a prima facie showing of inherency. Since the gas does not flow out, and since fluorine is leaving the gas and entering the preform, there are fewer atoms of fluorine in the gas thus the partial pressure would necessarily/inherently decrease.

Although applicant refers to Kyoto's example 2 and states that the only specific embodiment of Kyoto relied upon is Example 2, the 11/6/2008 rejection at page 5, line 6 also points to example 1. This line also refers to col. 2, line 63 of Kyoto. Neither of these are referred to by applicant. It is assumed that once applicant reviews these

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overlooked portions of Kyoto, applicant will agree that such shows that the invention would have been obvious.

Various arguments are based on the conclusion that Kyoto has "consistent and repeated emphasis that SiF₄ is to be continuously provided to a reaction vessel to prevent a decrease in the reaction rate of fluorine. At the bottom of page 7 of the arguments applicant refers to various passages in Kyoto. Examiner agrees that flowing is preferred by Kyoto (col. 2, lines 63). However none of the passages referred to by applicant suggests that flowing is required.

From MPEP 2123 Rejection Over Prior Art's Broad Disclosure Instead of Preferred Embodiments

**II. NONPREFERRED AND ALTERNATIVE EMBODIMENTS
CONSTITUTE PRIOR ART**

Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. In re Susi, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). "A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." In re Gurley, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994) (The invention was directed to an epoxy impregnated fiber-reinforced printed circuit material. The applied prior art reference taught a printed circuit material similar to that of the claims but impregnated with polyester-imide resin instead of epoxy. The reference, however, disclosed that epoxy was known for this use, but that epoxy impregnated circuit boards have "relatively acceptable dimensional stability" and "some degree of flexibility," but are inferior to circuit boards impregnated with polyester-imide resins. The court upheld the rejection concluding that applicant's argument that the reference teaches away from using epoxy was insufficient to overcome the rejection since "Gurley asserted no discovery beyond what was known in the art." 27 F.3d at 554, 31 USPQ2d at 1132.). Furthermore, "[t]he prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed...." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208

USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Thus even if Kyoto (alone) does not provide sufficient basis for not flowing the halide gas, such is not very relevant because the rejection is based on a combination of references.

It is also argued that the relevant issue is whether there is motivation to modify Kyoto to allow the decrease of the partial pressure. Applicant concludes there is no motivation because it such would make the process unsatisfactory for its intended purpose. Examiner cannot agree at least because Applicant has not pointed out any intended purpose and why the modification would made the process unsatisfactory. It seems clear to Examiner the purpose is to dope the preform. This purpose would clearly result from the proposed modification.

In response to applicant's argument that Dobbins, Korenowski and Simms is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Dobbins and Simms are in the field of applicant's endeavor: Glass making. Korenowski is reasonably pertinent to the particular problem with which applicant was concerned: the economy of processing. Kotrnowski teaches that semi-continuous processes are sometimes more economical. That basic concept is what applicant found: semi-continuous application (i.e. pulsing) of dopant gas is more economical than a fully continuous application of dopant gas.

Examiner notes the following passage:

From MPEP 2144.04

E. Making Continuous

In re Dilnot, 319 F.2d 188, 138 USPQ 248 (CCPA 1963) (Claim directed to a method of producing a cementitious structure wherein a stable air foam is introduced into a slurry of cementitious material differed from the prior art only in requiring the addition of the foam to be continuous. The court held the claimed continuous operation would have been obvious in light of the batch process of the prior art.).

Since the courts have held that continuous operations are obvious in view of batch processes. It would be a logical conclusion that a process half-way between continuous and batch processing (i.e. semi continuous) would also have been obvious.

As to Walker being non-analogous art: See 11/6/08 Office action, page 10, lines6-7. This has not been disputed by applicant.

IT is argued that Biswas is not applicable because Biswas does not each providing a first gaseous atmosphere to a vessel, at least partially evacuating the atmosphere and then providing a second atmosphere. The rejection points out where Biswas has the teaching. Applicant does not discuss the relevant passage from Biswas. It is assumed applicant overlooked this portion of the rejection (11/6/08 Office action , page 5, lines 18-20) and will agree with the Office upon review. It is also noted that applicant does contest that it is generally not invention to replenish a spent source - as set forth in the rejection.

As to the purported challenge to the Official notice: such is not an adequate traversal. As pointed out in MEP 2144.03 a proper challenge requires stating why the noticed fact is not considered to be common knowledge or well-known in the art.

Applicant's challenge lacks such a statement. Moreover, the Official Notice was first taken 7/6/2005. The purported challenge which arrives more than 3 years later is untimely.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John Hoffmann
Primary Examiner
Art Unit 1791

/John Hoffmann/
Primary Examiner, Art Unit 1791